

**Preliminary Amendment**

Clinton WALLER Jr. et al.

Serial No.: 08/892,902

Filed: 14 July 1997

For: MICROPOROUS INKJET RECEPTORS CONTAINING BOTH A PIGMENT MANAGEMENT SYSTEM & A FLUID MANAGEMENT SYSTEM

Page 2 of 10

At page 21, line 26, delete "or" and insert --of-- therefore.

At page 22, line 6, delete "cm<sup>2</sup>" and insert Bcm<sup>2</sup> -- therefore.

**In the Claims**

Please cancel claims 4 and 15, without prejudice. Please amend claims 1, 16, 18, 19, and 22 as indicated below. Please add new claims 25-36.

1. (Twice Amended) An inkjet receptor medium comprising:

a porous substrate having a fluid management system and a pigment management system in contact with surfaces of pores of the substrate, wherein the pigment management system comprises functionalized particulates within the pores of the porous substrate [or a functionalized coating along the surfaces of the pores of the porous substrate,] and [wherein] the fluid management system comprises a surfactant that carries away an ink passing through the substrate except for pigment particles in the ink.

5. The medium of Claim 1, wherein the functionalized particulates comprise fluorinated silica agglomerates that interact with dispersant to agglomerate pigment particles as an ink containing the pigment particles passes through pores.

10. The medium according to Claim 21, wherein the microporous membrane comprises a polypropylene film co-extruded with a mineral oil followed by bi-axial stretching under thermal conditions.

11. The medium according to claim 10, wherein the microporous membrane is an opaque film.

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Page 3 of 10

12. The medium according to Claim 1, wherein the surfactant is selected from the group consisting of fluorocarbon, silicon, hydrocarbon-based surfactants or a mixture thereof.
13. The medium according to Claim 12, wherein the surfactant comprises a silicon-based non-ionic surfactant.
14. The medium according to Claim 12, wherein the surfactant comprises a hydrocarbon surfactant of a fatty acid.

- 56B  
C2  
2  
B
16. (Twice Amended) A method of making an inkjet receptor medium comprising:
- (a) preparing a pigment management system;
  - (b) imbining the pigment management system into pores of a porous substrate, wherein the pigment management system once imbined into the pores comprises functionalized particulates within the pores of the porous substrate [or a functionalized coating along the surfaces of the pores of the porous substrate]; and
  - (c) imbining a fluid management system into the pores of the porous substrate wherein the fluid management system comprises a surfactant that carries away an ink passing through the substrate except for pigment particles in the ink.

- 56B  
C3  
2  
B
18. (Amended) A method of using an inkjet receptor medium comprising:
- (a) placing an inkjet receptor medium of claim 1 in an inkjet printer; and
  - (b) printing an image on the medium using inkjet ink, wherein the inkjet ink comprises pigment particles that are agglomerated using the pigment management system and fluid is passed through pores of the porous substrate using the fluid management system.
- B

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Page 4 of 10

563  
C3  
B  
Cathol

19. (Amended) The method according to Claim 18, wherein the inkjet ink further comprises a dispersant and further wherein the pigment management system comprises functionalized particulates within the pores that chemically interact with the pigment particles through interaction with dispersants surrounding the pigment particles.

21. The medium according to claim 1, wherein the porous substrate comprises a microporous membrane.

563  
C4  
B

22. (Amended) An inkjet receptor medium comprising:  
a porous [substrate] membrane of a synthetic polymer having a fluid management system and a pigment management system in contact with surfaces of pores of the substrate, wherein the pigment management system comprises [a functionalized] an inorganic multivalent metal salt coating along the surfaces of the porous substrate, and wherein the fluid management system comprises a surfactant that carries away an ink passing through the substrate except for pigment particles in the ink.

9

23. (Amended) The medium of claim 1, wherein the functionalized particulates comprise fluorinated silica agglomerates [particulates].

24. An inkjet receptor medium comprising:  
a porous substrate having a fluid management system and a pigment management system in contact with surfaces of pores of the substrate wherein the pigment management system comprises fluorinated silica agglomerates that are capable of agglomerating pigment particles in a pigment-containing ink used to print the inkjet receptor medium.

46

B

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Page 5 of 10

563  
C5

25. (New) The medium according to Claim 22, wherein the inorganic multivalent metal salt coating comprises an inorganic multivalent salt of cations derived from the elements of Group II and above in the Periodic Table within conditions of solubility rules, wherein the salt comprises a single salt or a binary salt or a ternary salt containing counterions selected from the group consisting of nitrate, nitrite, sulfate, sulfite, bisulfite, alkanesulfonate, fluoroalkanesulfonates, perchlorate, halide, pseudo-halides, acetate, propionate, and combinations thereof.

563  
D2

26. (New) The method according to Claim 22, wherein the porous membrane comprises a microporous membrane.

18 17

27. (New) The medium according to Claim 26, wherein the microporous membrane comprises a polypropylene film co-extruded with a mineral oil followed by bi-axial stretching under thermal conditions.

19 17

28. (New) The medium according to Claim 26, wherein the microporous membrane is a phase separated membrane.

563  
C6

29. (New) The medium according to Claim 22, wherein the surfactant is selected from the group consisting of fluorocarbon, silicon, hydrocarbon-based surfactants or a mixture thereof.

30. (New) The medium according to Claim 29, wherein the surfactant comprises a silicon-based non-ionic surfactant.

31. (New) The medium according to Claim 29, wherein the surfactant comprises a hydrocarbon surfactant of a fatty acid.

47

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Page 6 of 10

23 15  
32. (New) The medium of claim 22 wherein the porous membrane of a synthetic polymer is a thermally induced phase separated microporous membrane.

33. (New) A method of making an inkjet receptor medium comprising:

- 543 C1
- (a) preparing a pigment management system;
  - (b) imbibing the pigment management system into pores of a porous membrane of a synthetic polymer, wherein the pigment management system once imbibed into pores of the porous membrane comprises an inorganic multivalent metal salt coating along the surfaces of the pores of the porous substrate; and
  - (c) imbibing a fluid management system into the pores of the porous membrane wherein the fluid management system comprises a surfactant that carries away an ink passing through the substrate except for pigment particles in the ink.

34. (New) A method of using an inkjet receptor medium comprising:

- (a) placing an inkjet receptor medium of claim 22 in an inkjet printer; and
- (b) printing an image on the medium using inkjet ink, wherein the inkjet ink comprises pigment particles that are agglomerated using the pigment management system and fluid is passed through pores of the porous substrate using the fluid management system.

35. (New) The method according to Claim 34, wherein the inkjet ink further comprises a dispersant and further wherein the pigment management system comprises functionalized particulates within the pores that chemically interact with the pigment particles through interaction with dispersants surrounding the pigment particles.

48 B